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PD - 1999-11-09
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OPD - 1998-04-28
TI - AMPLIFIER TYPE SOLID-STATE IMAGE PICKUP DEVICE
IN - WATANABE YASUSHI
PA - SHARP KK
IC - H04N5/335 ; H01L27/146

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TI - Voltage control circuit for amplification type solid-state image pick-up - has common signal line to read signal from vertical signal line via impedance converting circuit and reading switch circuit

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AB - JP11313256 NOVELTY - Several amplification type photoelectric transducers are connected to vertical signal line. The signal of vertical signal line is held in two hold capacitance (211,212). The voltage is provided to common signal line at different periods by reading switch circuit in conduction via impedance converter circuit.
- USE - For amplification type solid-state image pick-up.
- ADVANTAGE - Since a common line supplies vertical signal line voltage, shading is eliminated and high resolution video signal is obtained. DESCRIPTION OF DRAWING(S) - The figure illustrates the circuit diagram of amplification type solid-state image pick-up. (211,212) Capacitors.

- (Dwg.1/14)

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- 1B
- PROBLEM TO BE SOLVED: To obtain a high quality video signal by outputting voltages of 1st and 2nd hold capacitors to a common signal line via an impedance conversion circuit as each set of voltages independently and respectively for a conduction period of a read switch circuit.
 - SOLUTION: Operations of signal reading, signal charge discharging and no-signal reading are conducted in common by pixels in a direction of rows, while a signal voltage and a non-signal voltage in the unit of a pixel are respectively stored in hold capacitors 203, 204. The non-signal voltage and the signal voltage of the stored pixels are fed to the gate of a driver transistor(TR) 152 used in common by switches 203, 204. The switches 203, 204 are driven separately and sequentially by clocks ϕ_{H1} and ϕ_{H2} outputted from a horizontal scanning circuit 145. The drive pulses given to the switches 203, 204 are synthesized by an OR circuit 213 to make a horizontal selection TR 153 conductive over a period when the non-signal voltage and the signal voltage are read. The non-signal voltage and the signal voltage of pixels are read on a horizontal signal line 154 in pairs.
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